Community Environmental Management to Create Jobs and Generate Income in Krasang District, Buriram Province, Thailand

Preecha Panoram[1], Kulganya Srisuk[2], Nitiroj Supakritsuwannakul[3], Bancha Jantaraj[4]

Abstract

This research aimed to study the environmental conditions, management and guidelines for community environmental management to create jobs and generate income in the community to solve poverty problems in Krasang District, Buriram Province. The researcher used the sample group according to the Taro Yamane table getting the 400 people. The research instruments were questionnaires. The statistics used for the research were percentage, mean, standard deviation, T-Test and F-Test. The research results found that the most common community environment was the garbage consisting of plastic, coffee or ovaltine bottles and sachets, soft drink cans, wet garbage, dry garbage and electronic waste. The community environmental management to generate income in the community included the waste management for transformation getting the highest mean (4.54). However, when considering the details, it was found that the first rank was the providing of knowledge on making consumer goods from plastic waste as a career. When classified by gender, there were no different opinions. When comparing residents who had lived in the community for a long time, only opinions on waste management were found significantly to have no different opinions at the .05.

Keywords: *Environmental Conditions, Management, Job Creation and Income Generation, Poverty.*

Introduction

Community environment can be divided into three main components: natural environment, man‑made environment, and community waste or garbage, namely: 1) Natural environment refers to the resources occurring naturally in the community, such as forests, water sources, soil conditions, and air. These resources play an important role as a source of food, water, and raw materials for the lives of people in the community. They also help to maintain the balance of the ecosystem in the area. If the community can take good care of and conserve natural resources, it will affect the quality of life and sustainable development. (Prasan & Arunsri. 2017) 2) The built environment is something that humans have created to support their way of life, such as houses, public buildings, infrastructure such as roads, bridges, and water management systems. These things help to increase the convenience and enhance the quality of life in communities. However, if the construction or use lacks good planning, it may cause impacts on the natural environment, such as encroaching on forests to build buildings or developing areas without considering the impact on natural resources. (Somchai & Niracha. 2018) and 3) Garbage and waste in communities are part of the environment resulting from the human's daily activities. There are many types of garbage in communities, such as organic waste, plastic waste, electronic waste, and toxic waste. Effective waste management can reduce the impact on the environment and health of communities, such as waste separation, recycling and the use of biodegradable materials. Many communities have begun campaigns to educate and create appropriate waste management guidelines to reduce the amount of garbage and pollution problems. (Kusuma & Atchara. 2019)

Krasang District is a district in Buriram Province. The poverty level of the district is ranked in the top 10 of the province, because it is considered a dry city, which has lacked water for a long time. Even though this problem has been solved for some area, when the dry season comes, there are still many areas lacking

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[1] Associate Professor Dr., Faculty of Management Science, Buriram Rajabhat University, Email: Preecha.pn@bru.ac.th.
[2] Assistant Professor Dr, Faculty of Management Science, Buriram Rajabhat University.
[3] Assistant Professor Dr, Faculty of Management Science, Buriram Rajabhat University.
[4] Lecturer, Faculty of Management Science, Buriram Rajabhat University

water for consumption and agriculture. Krasang District is divided into 11 sub-districts, 168 villages, and has a total population of 104,940 people. In terms of economic poverty, there are 2 types of poverty: Type 1: Absolute poverty, which means the lack of essential factors for living or the so-called 4 factors, such as housing, medicine, food, and clothing, lacking one or all of them. This type of poverty usually occurs in underdeveloped countries. Type 2: Relative poverty, which is poverty in terms of lack of income to spend, unemployment and having an unstable job, etc. (Nithinan Wisawesuan and Supachai Srisuchat, 2004)

Thailand is characterized by relative poverty because of the physical and environmental characteristics of the country. There are four factors but many people don't have income for living. From preliminary data, Krasang District has a large number of poor people with a monthly income of no more than 500 dollars distributed in each sub-district, especially poverty occurred after the COVID-19 situation. However, when considering the approach to generating income and solving poverty problems for the poor in Krasang District, it was found that the management of the community environment to create jobs and careers includes the natural environment, the man-made environment, or the environment caused by man, such as garbage or waste materials in the community. Therefore, the researcher is interested in solving the problems of people in the community regarding the management of the existing environment how will it be possible to push it to become a career for people in the community.

Objectives

To study the environmental conditions of communities in Krasang District, Buriram Province

To study the management of community environments to create jobs and generate income in the community

To study the guidelines for community environmental management to create jobs and generate income in the community to solve poverty problems in Krasang District, Buriram Province

Related Theory

The researcher uses the related concepts and theories to conduct the research. The concepts are classified as follows:

Community Environmental Management refers to the efficient management of natural resources and the environment, covering aspects such as provision, preservation, repair, economical usage and conservation, to ensure that natural resources and the environment can continuously benefit humanity without shortage or issues. It may also refer to the processes, plans, or activities involved in the allocation and utilization of natural resources and the environment to meet the varying needs of humans and achieve the ultimate development goals of economic, social, and environmental stability. This management approach adheres to conservation principles, emphasizing the wise, economical use of natural resources and minimizing adverse environmental impacts as much as possible. However, if we define the commonly discussed "environment" as an issue of pollution due to natural resource use or the consequences of development progress, we can then distinguish between natural resource management and environmental management (Kasem Chankaew. 2002). Natural resource management refers to efficient actions towards natural elements that benefit humans, including sourcing, preservation, repair, economical use, and conservation to ensure long-term availability. Environmental management refers to effective actions aimed at improving the surrounding conditions for better quality of life. This involves preventive measures to avoid problems. Currently, waste management is a critical issue, and repurposing waste materials is one method to reduce waste volume. Natural resource and environmental management should adhere to conservation principles

to guide management practices (Jolly, 2007). Natural resource or environmental management is a process of allocating both naturally occurring and human-made resources to fulfill the needs for using the environment appropriately, as both primary and secondary factors for the future. This systematic and efficient use of environmental resources requires planning, monitoring, evaluation, improvement, and adaptation to enhance outcomes. The goal is to ensure economical usage for maximum benefit, serving both humanity and nature to the greatest extent possible (Vinai Wirawatthananon. 1997). It is also considered a thorough examination of resources within an area, followed by decisions on actions that it will meet the community's needs without harming the environment or compromising its natural state (Winslow and Gubby. 1989).

The concept of career, as described by David V. Tiedeman and Robert P.O. Hara (1963), is based on Erikson's Theory of Personality Development and presents a career development theory that is divided into two main stages. Stage 1 is the career selection preparation stage, which is further broken down into four sub-stages: 1) Exploration Stage – In this stage, individuals gather various types of information and assess their interests, abilities, aptitudes, experiences, fields of study, and career types, as well as the feasibility of pursuing certain careers. 2) Crystallization Stage – Here, individuals consider the information gathered in the exploration stage, along with their own values and life goals, career options, and alternatives, leading to clearer ideas about their career preferences. 3) Choice Stage – At this stage, individuals make a preliminary or final decision on a career path. This choice depends on the information gathered during the exploration and crystallization stages. 4) Clarification Stage – In this stage, individuals examine the details of their career choice to gain a clearer understanding of the career path they intend to pursue. 2) Period of Implementation and Adjustment – In this phase, individuals are ready and begin working in their chosen profession. This period is divided into three sub-stages: Stage 1 is the Induction Stage – In this stage, individuals enter professional education or start their chosen career, preparing themselves for their work. Generally, they accept and adapt to the new environment. Stage 2 is the Reformation Stage – At this point, individuals gain acceptance in the educational or work environment they have chosen. They attempt to balance their own goals with those of the larger group, ultimately aligning with the group's objectives. Stage 3 is the Integration Stage – In this final stage, individuals achieve stability in their career. Holland (1988) proposed a theory of career choice based on several hypotheses: 1) Career choice is an expression of an individual's personality, and career interests reflect their personality in work, leisure activities, and hobbies. 2) Exploring career interests is a way of assessing an individual's personality. 3) If a person chooses a career based on their background and personality, that career will attract others with similar or compatible personalities and traits. 4) Each person has two or three major career interests that play a significant role in career selection. And 5) Career satisfaction, stability, and success depend on the alignment between an individual's personality and the work environment.

Poverty is a major national issue that requires continuous solutions in each country. In economics, poverty is divided into two definitions: 1) Absolute Poverty – This concept defines the poor as individuals with an income below the necessary level for basic needs. This includes aspects such as income, expenses, assets, housing, education, health, and lifestyle. Individuals or households in poverty lack the security to access adequate goods or services needed for basic living. This perspective is often categorized as "material deprivation," encompassing financial resources or levels of consumption. It also includes "social deprivation," which refers to risk, vulnerability, lack of self-respect, lack of autonomy, powerlessness, and the inability to advocate for oneself. 2) Relative Poverty – This concept defines poverty as having less in comparison to others. The analytical framework for understanding poverty based on different definitions leads to distinct strategies for addressing the issue. In economics, poverty is seen as a social indicator that maximal welfare has not been achieved. A society with a significant number of poor individuals suggests that certain groups cannot live with dignity, indicating that overall social welfare could be improved by reallocating resources (Nithinan Wisaweswan, 2003).

Concepts of Waste and Scrap Management: The management of waste and scrap materials to produce new products is a widely promoted approach to help reduce waste volume, decrease the consumption of natural resources, and generate income for communities. Many scholars have discussed the benefits and approaches of reusing waste (upcycling) or recycling to create new products, which include: 1) Reusing Waste Materials – This involves repurposing waste materials, such as plastic bottles, cardboard boxes, and metal scraps, to produce functional items like bags, jewelry, and decorations. This method is an effective way to reduce community waste and adds value to unused materials (Suntara, 2017). 2) Recycling Organic Waste for Agriculture – Organic waste management, such as food scraps and leaves, can be used to produce compost or as raw materials for bio-fertilizers. These products can be applied in agriculture, helping reduce production costs for local farmers (Wipawadee, 2018). 3) Processing Electronic Waste – This involves recycling electronic waste, such as unused mobile phones, by separating valuable materials, such as copper and iron, for reuse or for creating other products. This approach can help reduce pollution issues and address the shortage of rare resources (Somchai, 2019).

Research Methodology

Research Steps: The researcher has divided the research process into the following steps:

Research Team Meeting – The research team meets to conduct the research accurately and studies the concepts, theories, and literature related to community environment.

Framework Development for Research Tools – A framework is set to develop and refine research tools under the guidance of experts, ensuring that the scope of the tools aligns with the research objectives.

Questionnaire Design and Validation – A quantitative questionnaire is created and refined based on the research framework, covering the research scope. The questionnaire is then reviewed by three experts to evaluate content validity, structure, technical aspects, and research methodology. An index of congruence (IOC) is established, and revisions are made according to expert recommendations.

Pilot Testing and Reliability Analysis – The quantitative questionnaire is piloted in another area with 30 participants from a different sample group. Reliability is assessed using Cronbach's Alpha Coefficient, resulting in a score of 0.93. The questionnaire is then distributed in the target research area, and responses are analyzed to identify key community environmental factors. Finally, a model for community-based products is developed to address poverty issues within the community.

Population and Sample

The total population consists of 104,940 individuals. The sample was determined using Taro Yamane's sampling table, resulting in a total of 400 participants. The selection was specifically focused on individuals with an income below the specified threshold, defined as households with a monthly income of less than 16,500 THB or 500 USD. Additionally, all participants voluntarily agreed to complete the questionnaire.

Statistics Used in the Research

1. Percentage $= \dfrac{F x 100}{N}$

    Where   P represents the percentage

            F represents the frequency to be converted into a percentage

            N represents the total frequency

2. Mean $\overline{X} = \dfrac{\Sigma x}{n}$

Where $\overline{X}$ represents Mean

ΣX represents the sum of the data or scores

n represents the number of data points

3. Standard deviation (σ), the measure of standard deviation

$$S.D. = \sqrt{\frac{\Sigma(X_i - \overline{X})^2}{n-1}}$$

Where X_i represents the data of each details

$\overline{X}$ represents the sample's mean

n represents the number of sample

4. T-Test

$$t = \frac{\overline{x_1} - \overline{x_2}}{\sqrt{\dfrac{s_1^2}{n_1} + \dfrac{s_2^2}{n_2}}}$$

Where t represents Statistical value used for consideration is t - distribution

$\overline{x_1}$ represents Mean of group 1

$\overline{x_2}$ represents Mean of group 2

s_1^2 represents Variance of Group 1

s_2^2 represents Variance of Group **2**

n_1 represents Population size of Group 1

n_2 represents Population size of Group 2

5. The test of differences in the means of more than two sample groups aims to compare respondents' opinions categorized by the length of residence in the community. The F-test statistic is used with the following formula (Prasit Suwannarak, 1999, p. 328).

$$F = \frac{MS_b}{MS_w}$$

Where   F   represents   F-distribution

MS_b represents   Between-group variance

MS_w represents   Between-group variance

When a statistically significant difference is found, the Least Significant Difference (LSD) method is applied using the formula (Phongsri Vanichsupawong, 2003, p. 183)

$$LSD = t \propto, v \sqrt{MS_w(\frac{1}{n_i} + \frac{1}{n_j})}$$

When t α, v represents the t-statistic from the t-table with v = N - K,
MS_w represents the Mean Square Within Group statistic,

N_i ,n_j represent the sample sizes of groups i and j.

Conclusion

In conducting this research, the researcher set three objectives and gathered useful data from a total of 400 respondents. The majority were female, with an average age of 41‑50 years, married and had a monthly income of less than 15,000 baht. They had lived in Krasang District, Buriram Province, for more than 10 years. The research findings are as follows:

The Community Environment Within Krasang District, Buriram Province

Opinions on the community environment: The majority agree that the most abundant environmental issue in the community is waste, followed by water sources, forests and other natural resources, and wildlife, respectively.

Opinions on waste in the community: The majority believe that plastic is the most common type of waste, followed by bottles, coffee/ovaltine sachets, soda cans, wet waste, dry waste, and electronic waste.

Opinions on water sources: The majority believe that there is a lack of water sources for consumption and agriculture, followed by sources being located far from residential areas, and large reservoirs, medium-sized ponds, and small ponds, respectively.

Opinions on forests and natural resources: The majority agree that there is a lack of forests where resources can be found, followed by a scarcity of economic resources, the presence of wild mushrooms, wild vegetables, and wood or tree roots that can be used as herbal medicine.

Opinions on the presence of wildlife: The majority believe that there are protected wildlife species that cannot be hunted, and a small number of wildlife species that can be hunted.

Community Environmental Management to Generate Income

Overall, the opinions on community environmental management to generate income for the community are shown in the following table.

Table 1. Shows the Details of the Overall Community Environmental Management.

Details of Topic	$\overline{X}$	S.D	Level	Rank
Waste management	4.54	0.69	Most	1
Water source management	3.66	0.94	More	2
Forest and forest resource management	2.33	0.85	Little	4
Wildlife management	1.83	0.70	Little	5
Policies of the Subdistrict Administrative Organization	3.23	0.69	moderate	3

From the table, it can be seen that in community environmental management, the top priorities are: 1) Waste management, 2) Water source management, 3) Policies of the Subdistrict Administrative Organization, 4) Forest and forest resource management, and 5) Wildlife management, in that order. Upon further examination of the details, it is found that;

Rank 1: Opinions on Waste Management

The overall assessment of waste management was found to be at the "Most" level (4.54). However, a detailed analysis revealed the following: Ranked first, providing knowledge about creating household products from plastic to generate a livelihood (4.79). Ranked second, providing knowledge about making baskets or household items from soda cans to generate a livelihood (4.73). Ranked third, segregating waste for sale as a means of livelihood (4.67). Ranked fourth, providing knowledge about creating household items from coffee sachets to generate a livelihood (4.54). Ranked fifth, converting organic waste into usable fertilizer (3.99), respectively.

Rank 2: Opinions on Water Management

The overall assessment of water management was found to be at the "High" level (3.66). However, a detailed analysis revealed the following: Ranked first, providing knowledge on creating underground water banks (4.64). Ranked second, providing knowledge for establishing water sources using the "Khok Nong Na" model (4.63). Ranked third, providing knowledge on managing water from existing sources for agricultural use (4.24). Ranked fourth, providing knowledge on producing drinking water for sale (2.95). Ranked fifth, providing knowledge on solar-powered water pumping (1.81), respectively.

Rank 3: Opinions on the Policies of the Subdistrict Administrative Organization

The overall assessment of the policies of the Subdistrict Administrative Organization was found to be at the "Moderate" level (3.23). However, a detailed analysis revealed the following: Ranked first, the organization should have plans and policies to develop projects for creating the livelihoods through waste management (4.69). Ranked second, the organization should have plans and policies to create the livelihoods through water resource management for agricultural purposes, specifically benefiting disadvantaged communities (4.55). Ranked third, the organization should have plans and policies to allow communities to access and utilize certain forest resources in ways that comply with legal regulations (2.07). Ranked fourth, the organization should have plans and policies to enable the poor to earn income through the legal raising of economic wildlife (1.62), respectively.

Rank 4: Opinions on Forest and Forest Resource Management

The overall assessment of forest and forest resource management was found to be at the "Low" level (2.33). However, a detailed analysis revealed the following: Ranked first, promoting livelihoods through the cultivation of wild vegetables around the home (3.55). Ranked second, providing knowledge on producing textile products from forest wood used as natural dyes for legal sale (2.38). Ranked third, providing knowledge on creating livelihoods from forest herbal products that can be legally collected (2.25). Ranked fourth, providing knowledge on creating livelihoods from mushroom products that can be cultivated at home (1.89). Ranked fifth, offering training on forest laws and the utilization of forest resources (1.62), respectively.

Rank 5: Opinions On Wildlife Management

The overall assessment of wildlife management was found to be at the "Low" level (1.83). However, a detailed analysis revealed the following: Ranked first, providing knowledge about preparing food from legally sourced wildlife to create livelihoods (1.93). Ranked second, providing knowledge about the types of protected wildlife species (1.87). Ranked third, providing knowledge on raising wildlife for livelihoods in compliance with legal regulations (1.69), respectively.

Based on the opinions regarding waste management, when compared using the T-Test statistic and considering the personal data, specifically the gender of the respondents, the findings are as follows:

Table 2. Shows The Details of The Comparison of Opinions Based on The Gender of the Respondents Using the T-Test.

Different Details	Sex	N	$\bar{X}$	S.D	t	p
Waste management	Male	55	4.51	.487	-.863	.390
	Female	95	4.57	.370		
Water source management	Male	55	3.88	.453	4.963	.000*
	Female	95	3.52	.416		
Forest and forest resource management	Male	55	2.40	.258	1.951	.053
	Female	95	2.30	.360		
Wildlife management	Male	55	2.16	.320	10.486	.000*
	Female	95	1.64	.284		
Policies of the Subdistrict Administrative Organization	Male	55	4.07	.438	-4.301	.000*
	Female	95	4.44	.542		

* Significant at the 0.05 level

From the table, it was found that respondents of different genders had significantly different opinions on various aspects, including waste management and forest and forest resource management, at the statistical significance level of .05. However, opinions on water resource management, wildlife management, and the policies of the Subdistrict Administrative Organization showed no significant differences at the statistical significance level of .05.

When analyzing opinions on various aspects using three personal variables, in this case, the researcher selected the duration of residence in the area. The opinions of the sample groups on each aspect were compared using the One-Way ANOVA statistic and LSD. The findings are presented in the table below as follows:

Table 3. Shows The Details of The Mean and Standard Deviation of The Duration of Residence in the Area.

Topic	1-5 Year		6-10 Year		10 Year up	
	Mean	S.D	Mean	S.D	Mean	S.D
Waste management	4.69	.23	4.46	.38	4.56	.44
Water source management	2.91	.28	3.50	.25	3.78	.46
Forest and forest resource management	2.00	.00	2.39	.38	2.35	.31
Wildlife management	1.33	.00	1.65	.34	1.94	.37
Policies of the Subdistrict Administrative Organization	3.30	.35	4.30	.35	4.40	.52
Total	2.85	.17	3.26	.34	3.40	.42

From the table, it can be seen that residents in the village who have lived for 1-5 years, 6-10 years, and more than 10 years, overall, rated all aspects at a moderate level (2.85), (3.26), and (3.40) respectively. However, when considering each detail, in the aspect of waste management, residents in all time periods rated it at the highest average level (4.69), (4.46), and (4.56) respectively.

And when comparing the duration of residence in the village using One-Way ANOVA, the following results were found:

Table 4. Shows the Details of the Comparison of the Duration of Residence in the Village.

ANOVA		SS	df	MS	F	Sig.
Waste management	Between Groups	.508	2	.254	1.479	.231
	Within Groups	25.261	147	.172		
	Total	25.770	149			
Water source management	Between Groups	7.419	2	3.709	22.263	.000
	Within Groups	24.493	147	.167		
	Total	31.912	149			
Forest and forest resource management	Between Groups	1.138	2	.569	5.595	.005
	Within Groups	14.953	147	.102		
	Total	16.091	149			
Wildlife management	Between Groups	4.676	2	2.338	18.931	.000
	Within Groups	18.154	147	.123		
	Total	22.830	149			
Policies of the Subdistrict Administrative Organization	Between Groups	10.051	2	5.025	22.569	.000
	Within Groups	32.732	147	.223		
	Total	42.782	149			

* Significant at the 0.05 level

From the table, it can be seen that overall, in the aspect of waste management, respondents who are residents of the area with different durations of residence did not show significant differences in their opinions at the statistical significance level of .05. However, for other aspects, including water resource management, forest and forest resource management, wildlife management, and the policies of the Subdistrict Administrative Organization, there were significant differences in opinions at the statistical significance level of .05. Nevertheless, when comparing only the values that showed statistically significant differences, the following results were found:

Details of each part	Duration of residence	Mean	1-5 Year	6-10 Year	10 Year Up
Water source management	1-5 Year	2.91		-.589*	-.866*
	6-10 Year	3.50	.		-.277*
	10 Year Up	3.78	.		
Forest and forest resource management	1-5 Year	2.00		-.389*	-.348*
	6-10 Year	2.39			.042
	10 Year Up	2.35			
Wildlife management	1-5 Year	1.33		-.316*	-.605*
	6-10 Year	1.65			-.289*
	10 Year Up	1.94			
Policies of the Subdistrict Administrative Organization	1-5 Year	3.30		-1.002*	-1.102*
	6-10 Year	4.30			-.100
	10 Year Up	4.40			

* Significant at the 0.05 level

From the table, it can be seen that in all four aspects, those who have lived in the area for 1-5 years had significantly different opinions from those who have lived for 6-10 years and more than 10 years at the .05 significance level. Additionally, those who have lived for 6-10 years had significantly different opinions from those who have lived for more than 10 years at the .05 significance level.

Guidelines for Community Environmental Management

The research findings revealed that the waste is a significant component of the community environment and can be utilized to create the jobs and generate the income for the community. The researcher conducted an experiment by repurposing discarded aluminum beverage cans into baskets and provided training to the community on this process, followed by selling the products. The experimental results showed that a basket made from 20 aluminum beverage cans could be sold for 300 baht of each. This income exceeds the earnings from selling the empty aluminum cans, which are priced at 22 baht per kilogram with one kilogram containing approximately 70 cans. Therefore, creatively transforming specific the types of waste into new products can generate more income than simply the selling of waste.

Discussion

This research aimed to address the issues through three objectives: (1) to study the environmental conditions of the community, (2) to examine the management of community environments to create employment and generate income within the community, and (3) to explore approaches for managing community environments to create employment and income as a means of alleviating poverty in Krasang District, Buriram Province. When comparing respondents' opinions on waste management categorized by gender, no statistically significant differences were found at the 0.05 level. Similarly, comparing respondents with different durations of residence in the community revealed no statistically significant differences at the 0.05 level. The findings from this research are as follows:

The environmental conditions of the community include the following: Waste: This comprises the plastic, bottles and sachets of coffee/Ovaltine, soda cans, wet waste, dry waste, and electronic scraps. Water sources: These include sources for consumption and agriculture, distant water sources, large reservoirs, and small ponds. Forests and other forest resources: These are limited in availability and include few economic resources, wild vegetables, and herbs such as tree roots that can be used for medicinal purposes. Wildlife: This includes protected wildlife that cannot be hunted and a limited number of animals that can be hunted. However, the most abundant and tangible environmental issue in the community is waste. This aligns with the findings of Teeradech Jamkrachang (2017), who conducted research on waste management. It was revealed that in the studied community, the most prevalent and challenging environmental issue was household and community waste, which, when discarded, caused environmental pollution and foul odors throughout the area. Therefore, integrated efforts must be promoted to manage waste efficiently, turning it into valuable resources or income. This also corresponds with the study by Kampol Rujivitchaya et al. (2010), which investigated environmental management in Japan and South Korea. The study found that waste is the most prevalent environmental issue in these countries, requiring effective management to enable recycling or conversion into income for the community. Consequently, waste management must adopt methods to improve the community's environmental image, positively impact the health and well-being of residents, and generate employment and income, thereby maximizing benefits.

Community environmental management to generate income, the research findings reveal that communities in Krasang District, where most residents live in poverty, highlight the need for effective waste management. The data indicate that waste management holds the highest average score (4.54). Upon closer analysis, the following were ranked: Rank 1: Educating the community on creating household items from plastic to establish livelihoods. Rank 2: Providing knowledge on making baskets or household items from soda cans as a source of income. Rank 3: Teaching waste separation for resale as a livelihood activity. Rank 4: Offering knowledge on creating items from coffee sachets for income generation. Rank 5: Educating on converting organic waste into usable fertilizer. Waste management practices emerged as the most prominent form of environmental management, with an average score higher than other methods. Consequently, the researcher concludes that other environmental management practices do not significantly contribute to income generation for the predominantly poor community. In contrast, waste management demonstrates the potential for transforming waste into income sources. When comparing responses based on gender, the analysis found no statistically significant differences at the 0.05 level. Additionally, a One-Way ANOVA comparing the opinions of impoverished residents based on their length of residence in the community also showed no statistically significant differences at the 0.05 level. These results indicate unanimous agreement among the impoverished residents that waste management can provide both income and employment opportunities. This is likely due to the accessibility of waste, as it is commonly found near homes or in crowded areas, often discarded improperly. Waste, being the most prevalent environmental concern, originates as discarded or unwanted items that are difficult to eliminate. The community agrees that waste should be repurposed or recycled. This aligns with Kasem Chankaeo (2002), who stated in his book that waste management should emphasize reuse by crafting new items from discarded materials. This perspective is consistent with community feedback identifying plastic, followed by bottles, coffee sachets, and soda cans, as the most recyclable waste materials. Furthermore, the findings align with Sahachai Chooaksorn (2013), who studied municipal solid waste management in Kok Muang Subdistrict Municipality, Phatthalung Province. His study found no statistically significant gender-based differences at the 0.05 level, affirming that recycling or repurposing waste can address waste problems and add value, thus potentially resolving issues of employment and income generation. Additionally, Smith and Lee (2020) investigated the use of various types of plastic waste to produce bricks and new construction materials. Their study revealed that incorporating plastic into construction reduces community waste, cuts material costs, and minimizes the exploitation of natural resources. Similarly, Johnson (2021) explored biogas production from household and restaurant food waste, finding that converting organic waste into biogas not only reduces waste but also provides renewable energy for households, decreasing reliance on fossil fuels. Martinez (2020) examined recycling electronic waste, such as circuit boards and old mobile phones, by extracting valuable metals like copper and gold for manufacturing new electronic devices. His research concluded that recycling electronic waste reduces the need for natural resource extraction and mitigates pollution from hazardous waste.

Recommendations

Recommendations from the Research Findings

Government agencies should develop plans for managing community environments, particularly waste, in ways that facilitate recycling. For example, plastic waste could be repurposed into baskets or bags, and coffee sachets could be transformed into bags or pillows.

A waste reform plan should be implemented as part of a livelihood creation strategy for villagers, especially those living in poverty. This could include providing training and hands-on workshops to enable the transformation of waste into marketable products. Additionally, mechanisms should be established for purchasing and selling these recycled products in local markets.

Suggestions for Future Research

Future studies should explore methods for recycling waste products into income-generating opportunities for impoverished communities.

Research should focus on developing the capacities of impoverished individuals by providing knowledge about recycling waste materials available within their communities.

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